

REMARKS/ARGUMENTS

1.) Claim Amendments

The Applicant has amended claims 1, 11 and 12. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-12 and 23-26 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

Allowable Subject Matter

The Applicant notes with appreciation the conditional allowance of claims 23-25.

Claim Rejections – 35 U.S.C. § 103 (a)

Claims 1-8 and 10-12 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Radha et al (US Patent No. 6,700,893 B1) in view of Zhu, et al. (US 6,085,252) and Balachandran et al (US 7,068,619 B2). The Applicant respectfully traverses the rejection of these claims.

The Applicant's present invention solves the problem of self congestion, i.e., the retransmission of one packet in a limited pipe can block other, first time packets. The Applicant respectfully submits that either the Applicant has not sufficiently explained or the Examiner has not yet understood the difference. For instance, Radha checks for lost packet A: If A is retransmitted, will packet A arrive in time for presentation? If yes, retransmit A, else discard. The Applicant's present invention checks for packet A: packet A is lost and packet B must arrive in time for presentation. If A is retransmitted will B arrive in time for presentation? If yes, retransmit A, else discard.

The condition addressed by the Applicant, retransmitting if there is time for presentation without delaying a packet that is due to be transmitted, is totally different from, and not shown in, the cited art - which is concerned with whether packet A will arrive on time. It is nowhere shown in the cited art to check if one packet will delay a different one.

Regarding claim 1, the Examiner indicates that Radha discloses that "a presentation time is defined for a first data packet of said plurality," is disclosed in col. 1, lines 50-52. The Applicant has again reviewed the Examiner's cite and respectfully disagrees with the interpretation. The Examiner states that a presentation time is defined in Radha as a time that a data packet must be delivered "in order to be useful." The Applicant respectfully submits that the Examiner appears to be inferring the definition of the Applicant's "presentation time" from the language of the cited portion of Radha. This cited portion (col. 1, lines 50-52) states "...[m]ust be recovered prior to the time the corresponding frame must be decoded. If not an underflow event occurs." As noted above, Radha is concerned with the arrival of packet A only, and the Applicant is concerned with whether a follow-on packet will arrive in time if the lost packet is retransmitted; i.e. if the retransmitted packet will interfere with the follow-on packet.

The Applicant has amended claim 1 in line with the Examiner's indication that the definition of presentation time is not in the claim. Claim 1 now recites "...presentation time is defined as corresponding to the latest time when a first data packet of said plurality must arrive at the receiver to be processed and presented by the application,...". The presentation time is defined in a more detailed fashion on page 5, lines 10-15. There is no indication either in the claim or in the Applicant's Specification that the packet must arrive during a "presentation time" in order to be useful. The Applicant respectfully submits that the Radha reference does not disclose "presentation time" as defined by the Specification and claim 1; nor does the Balachandran or Zhu references.

The limitation beginning "determining a delay budget..." is rejected as being disclosed in Radha (col. 2, ln 58-60). Extending beyond the cited portion of Radha, Radha states a "... streaming data receiver introduces a certain start-up delay to the incoming bitstream. This start-up delay defines the time-delay budget that the streaming data receiver can relay on."... (col. 2, lines 60-65). In this situation, the time-delay budget is not determined; since it is startup the budget is predetermined.

The Applicants delay budget in claim 1 is "a transmission capacity available for data packet transmissions without delaying the first data packet beyond the

presentation time...". Also, the delay budget "... indicates the amount of time by which original data packets can be delayed without resulting in a buffer underflow..." (page 15, lines 17-19). First, the delay budget disclosed by the Applicant is determined based on measurements made on a first data packet, including the presentation time of the first data packet. Nowhere does Radha, Balachandran or Zhu disclose this limitation. Second, the definition of Applicant's "presentation time" is not found in Radha (see above) or Balachandran or Zhu. Third, Radha's time-delay budget is for identifying lost packets and to prevent retransmitting the lost ones if they won't arrive in time for presentation. As indicated in the second Specification cite above, the Applicant's delay budget relates to preventing blocking a timely arrival of an original packet, not preventing retransmission of lost, already transmitted packets.

With regard to the limitation beginning "determining a delay requirement...", the Radha portion cited, column 12, lines 53-55, relates to determining "the elapsed time ... for detecting and...recovering lost packets through the re-transmission process." The Applicant's claim limitation is applied to determining the time to retransmit the packet based on what the transmission capacity is and how much transmission capacity is required for the selected packet (essentially, delay budget). As disclosed in the following claim element, "comparing the delay requirement and the delay budget", the delay budget indicates that it will take so much transmission time/capacity; does the delay requirement fit within that delay budget? If so, transmit the packet. Neither the determination of a delay requirement nor comparing the delay requirement to the delay budget are primarily concerned merely with recovery of a lost packet, but can the lost packet be retransmitted without interfering with the presentation time of the selected packet.

The Zhu reference is cited as disclosing the Applicant's limitation beginning; "selectively retransmitting the first data packet..." for the purpose of conserving bandwidth. Zhu does not disclose the above limitations missing from Radha.

Balachandran is cited for disclosing "...the delay budget indicating a transmission capacity available for data packet retransmissions without delaying the first data packet beyond the presentation time". The Applicant has read the cited portion and respectfully

disagrees with the Examiner's interpretation. Balachandran, in the cited passages, discusses the amount of playout time (playout time is defined in the later passage) a first RLC block of data requires. If a subsequent RLC block is not received by the end of the playout time of the first RLC block, the subsequent RLC block is aborted (col. 2, lines 35-46). So, the subsequent block is in transit – not received – the block is aborted, or discarded. In contrast, the Applicant determines if packet A is lost and if so, the question is raised; is there time to retransmit packet A before packet B needs to arrive in time for presentation? If so retransmit A, if not discard packet A. The packet will not be in transit because if it won't arrive in time, it is not sent.

The Applicant respectfully submits that the above limitations are not disclosed in the Radha, Zhu and Balachandran references, individually or in combination, and a prima facie case of obviousness, as provided in MPEP § 2143 has not been established as against claim 1 and the Applicant respectfully requests the allowance of claim 1. Claims 2-8 and 10 depend from amended claim 1 and recite further limitations in combination with the novel elements of claim 1. Therefore, the allowance of claims 2-8 and 10 is respectfully requested.

The Applicant respectfully notes that the Examiner, in the rejection of claim 11, indicates that Radha discloses a receiver, instead of a sender as disclosed by the Applicant, as having the capabilities of defining presentation time for a first data packet, determining a delay budget and determining a delay requirement. However, the Applicant respectfully submits that the receiver disclosed in Radha does not disclose these specific functions as recited by claim 11. This being the case, the allowance of amended claim 11 is respectfully requested.

Also, claim 12 is rejected for the same reasons as claim 1. The Applicant respectfully submits that claim 12 is allowable over the Radha, Balachandran and Zhu references for the same reasons that claim 1 is allowable. The Applicant respectfully requests the allowance of amended claim 12.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Radha, Zhu and Balachandran in further view of Hackenberg et al US Pat No.

6,792,470B2. The Hackenberg reference fails to supply the limitations described above that are missing from the Balanchandran, Radha and Zhu references. So, the Balanchandran, Radha, Zhu and Hackenberg references fail to suggest, teach or disclose, individually or in combination, all of the limitations in Claim 1. This being the case, the Applicant respectfully requests the allowance of claim 9.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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